Magnetic Configuration and Evolution in a Solar Active Region

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In the paper, we present results of the analysis of NOAA 8668, which was observed by space satellite (SOHO) and ground-based observatories (BBSO, Huairou), The daily observations at Huairou usually end before the time near the start-time of BBSO observation, so the magnetic field of this active region was observed successively. With the SOHO data, it offers us a good example of a region observed continuously from low to high solar atmosphere. Several flares and a sigmoid filament were observed in the active region, and we observed the sigmoid filament from its birth to disintegrating. We find the configuration of the solar magnetic of this active region changed quickly during the activity phenomena, and the heating of the active region loops maybe the results of magnetic reconnection, and the flares are due to reconnection between the pre-existing field and newly emerging flux.

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